

- 13 -

## P A T E N T   C L A I M S

=====

1. Electrostatic corrector for eliminating the chromatic aberration of particle lenses, with a straight optical axis and an electrostatic quadrupole for allocating to the objective lens, characterised in that
- two corrector pieces are positioned behind the quadrupole, along the optical axis in the direction of radiation,
  - each corrector piece has three electrical quadrupole fields with an overlying circular lens field,
  - the quadrupole fields, however, are rotated 90 degrees about the optical axis in relation to each other, and
  - adjustment takes place in such a way that the astigmatic intermediate image of one section lies in one corrector piece and the astigmatic intermediate image perpendicular thereto, of the other section, lies in the other corrector piece, with another electrostatic quadrupole being located on the output side.
2. Corrector according to claim 1, characterised by a symmetrical construction of the corrector piece and/or a symmetrical extension of the fields of a corrector piece with respect to their centre planes.
3. Corrector according to claim 1 or 2, characterised by a symmetrical construction of the corrector

2050EO" E6T8T00F

- 14 -

and/or a symmetrical extension of the fields with respect to the centre plane defined by the two corrector pieces.

4. Corrector according to claims 1 to 3,  
5 characterised in that the quadrupole fields of the corrector pieces are overlaid by at least one quadrupole field.
5. Corrector according to claim 4, characterised in that the octopole fields are arranged in the  
10 region of the respective astigmatic intermediate images.
6. Corrector according to claim 4 or 5, characterised in that one and the same multipole element generates both a quadrupole and an octopole field.
- 15 7. Corrector according to one of the preceding claims, characterised in that a further (third) corrector piece is connected downstream in the direction of the optical axis, the spatial arrangement and intensity of its circular lens  
20 fields and quadrupole fields being chosen so as to be mirror symmetrical with respect to the centre of the second corrector piece.

10018193.030502

add A7